

In the Abstract:

On new page 17 following the claims, please insert the following paragraph:

Abstract

Apparatus and methods for controlling weld conditions during welding include identifying a transition between a first mode of operation during which no spatter is produced and a second mode of operation during which some amount of spatter is produced. A power supply voltage is adjusted such that welding occurs under conditions associated with the transition. Identifying the transition includes identifying near zero voltage fluctuations in the power supply voltage.